

1139 This Week in *Science*

Editorial

1141 *The AAAS Observer*

Letters

1143 Psychologists and Psychiatrists as Expert Witnesses: R. D. FOWLER AND J. D. MATARAZZO; D. FAUST AND J. ZISKIN ■ IIASA's Credibility: S. MAC LANE ■ BEIR IV Report: W. H. ELLETT

News & Comment

1152 Science and the Party Platforms ■ Advice on a Science Adviser
1153 The SSC and the Environment
1154 A Biotech Enterprise Soviet Style ■ Journals No Longer Censored ■ A Minor Identity Crisis
1156 Du Pont Stakes Claim on Superconductor Rights
1157 Drug Wars: Legalization Gets a Hearing
1159 Pay Cap for Grantees Has Up Side for NSF
Britain to Set Science, Math Goals for Kids

Research News

1160 How Many Ways Can Halley Spin?
1161 Another Asteroid Has Turned Comet
1162 Computer-Drawn Pictures Stalk the Wild Trajectory ■ Fatal Attractions?
1164 "Abzymes" Make Their Mark?
Fetal Panel to Meet
1165 *Random Samples*: Science and the Democrats ■ Adopt a Scientist ■ Can't Stand Up for Falling Down ■ Required Reading

Policy Forum

1166 The Tritium Factor as a Forcing Function in Nuclear Arms Reduction Talks: J. C. MARK, T. D. DAVIES, M. M. HOENIG, P. L. LEVENTHAL ■ Limits on Nuclear Materials for Arms Reduction: Complexities and Uncertainties: W. G. SUTCLIFFE

Articles

1170 Desiccation of the Aral Sea: A Water Management Disaster in the Soviet Union: P. P. MICKLIN
1176 Chemistry of the Metal-Polymer Interfacial Region: H. LEIDHEISER, JR., AND P. D. DECK
1182 DNA Binding by Proteins: R. SCHLEIF

Research Articles

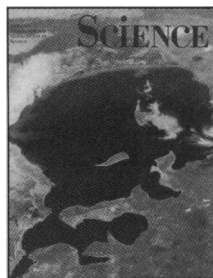
1188 Induction of an Antibody That Catalyzes the Hydrolysis of an Amide Bond: K. D. JANDA, D. SCHLOEDER, S. J. BENKOVIC, R. A. LERNER
1192 Functional Cooperativity Between Transcription Factors UBF1 and SL1 Mediates Human Ribosomal RNA Synthesis: S. P. BELL, R. M. LEARNED, H.-M. JANTZEN, R. TJIAN

Reports

1198 Bulk Superconductivity at 122 K in $Tl(Ba,Ca)_2Ca_3Cu_4O_{10.5+\delta}$ with Four Consecutive Copper Layers: P. HALDAR, K. CHEN, B. MAHESWARAN, A. RONG-JANICKI, N. K. JAGGI, R. S. MARKIEWICZ, B. C. GIESSEN

■ **SCIENCE is published weekly on Friday, except the last week in December, and with an extra issue in February by the American Association for the Advancement of Science, 1333 H Street, NW, Washington, DC 20005.** Second-class postage (publication No. 484460) paid at Washington, DC, and at an additional entry. Now combined with **The Scientific Monthly**® Copyright © 1988 by the American Association for the Advancement of Science. The title **SCIENCE** is a registered trademark of the AAAS. Domestic individual membership and subscription (51 issues): \$70. Domestic institutional subscription (51 issues): \$110. Foreign postage extra: Canada \$32, other (surface mail) \$32, air-surface via Amsterdam \$85. First class, airmail, school-year, and student rates on request. Single copies \$3.00; back issues \$5.00; Biotechnology issue, \$5.50 (\$6 by mail); classroom rates on request; Guide to Biotechnology Products and Instruments \$16 (\$17 by mail). **Change of address:** allow 6 weeks, giving old and new addresses and seven-digit account number. Authorization to photocopy material for internal or personal use under circumstances not falling within the fair use provisions of the Copyright Act is granted by AAAS to libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the base fee of \$1 per copy plus \$0.10 per page is paid directly to CCC, 21 Congress Street, Salem, Massachusetts 01970. The identification code for *Science* is 0036-8075/83 \$1 + .10. **Postmaster:** Send Form 3579 to *Science*, 1333 H Street, NW, Washington, DC 20005. *Science* is indexed in the *Reader's Guide to Periodical Literature* and in several specialized indexes.

■ The American Association for the Advancement of Science was founded in 1848 and incorporated in 1874. Its objects are to further the work of scientists, to facilitate cooperation among them, to foster scientific freedom and responsibility, to improve the effectiveness of science in the promotion of human welfare, and to increase public understanding and appreciation of the importance and promise of the methods of science in human progress.



COVER Looking south at the Aral Sea, a large, saline lake in the Soviet Union, from the Space Shuttle (6 August 1985). Sea level fell 11.5 meters between 1960 and 1985, exposing extensive salt-covered areas that appear white. The Amu Dar'ya Delta (light blue) is at top. A salt cloud rises from the sea's southeast coast (upper left). See page 1170. [Photograph courtesy of Michael Helfert, NASA-JSC, mission 51F(24), roll 36, frame 59]

- 1200 Femtosecond Clocking of the Chemical Bond: M. J. ROSKER, M. DANTUS, A. H. ZEVALI
- 1203 A Novel Instrument for Separating Large DNA Molecules with Pulsed Homogeneous Electric Fields: S. M. CLARK, E. LAI, B. W. BIRREN, L. HOOD
- 1205 Two Mechanisms for the Extinction of Gene Expression in Hybrid Cells: P. TRIPPUTI, S. L. GUÉRIN, D. D. MOORE
- 1207 Binding of a Cytosolic Protein to the Iron-Responsive Element of Human Ferritin Messenger RNA: T. A. ROUAULT, M. W. HENTZE, S. W. CAUGHMAN, J. B. HARFORD, R. D. KLAUSNER
- 1210 Transcription Factor OTF-1 Is Functionally Identical to the DNA Replication Factor NF-III; E. A. O'NEILL, C. FLETCHER, C. R. BURROW, N. HEINTZ, R. G. ROEDER, T. J. KELLY
- 1213 Mitogen-Induced Replication of Woodchuck Hepatitis Virus in Cultured Peripheral Blood Lymphocytes: B. E. KORBA, P. J. COTE, J. L. GERIN
- 1216 Gibberellins: A Phytohormonal Basis for Heterosis in Maize: S. B. ROOD, R. I. BUZZELL, L. N. MANDER, D. PEARCE, R. P. PHARIS
- 1218 Effect of Neuropeptides on Production of Inflammatory Cytokines by Human Monocytes: M. LOTZ, J. H. VAUGHAN, D. A. CARSON
- 1221 A Novel Gene of HIV-1, *vpu*, and Its 16-Kilodalton Product: K. STREBEL, T. KLIMKAIT, M. A. MARTIN
- 1223 Platelet-Derived Growth Factor A Chain Is Maternally Encoded in *Xenopus* Embryos: M. MERCOLA, D. A. MELTON, C. D. STILES
- 1225 A Mutation of the Circadian System in Golden Hamsters: M. R. RALPH AND M. MENAKER
- 1228 The Human Laminin Receptor Is a Member of the Integrin Family of Cell Adhesion Receptors: K. R. GEHLSSEN, L. DILLNER, E. ENGVALL, E. RUOSLAHTI
- 1230 Genome Size in Conodonts (Chordata): Inferred Variations During 270 Million Years: S. CONWAY MORRIS AND E. HARPER

Technical Comments

- 1232 Do Short-Term Tests Predict Rodent Carcinogenicity?: S. S. YOUNG; J. K. HASEMAN, B. H. MARGOLIN, M. D. SHELBY, E. ZEIGER, R. W. TENNANT

AAAS Meetings

- 1234 AAAS Forum '88: Science Teaching ■ Advance Registration and Housing Form

Book Reviews

- 1237 Aldo Leopold, reviewed by S. R. SCHREFFER ■ Fidia Research Foundation Neuroscience Award Lectures, L. W. ROLE ■ Cauldrons in the Cosmos, G. J. MATHEWS ■ Some Other Books of Interest, K. Livingston ■ Books Received

Products & Materials

- 1241 Confocal Laser Scanning Microscope ■ Molecular Structure Analysis Workstation ■ Fetal Bovine Serum Substitute ■ Automatic Microplate Washer ■ Nucleic Acid Transfer System ■ Statistics Software ■ Ultrafiltration Cassettes ■ Literature

Board of Directors

Sheila E. Widnall
*Retiring President,
Chairman*

Walter E. Massey
President

Richard C. Atkinson
President-elect

Floyd E. Bloom
Mary E. Clutter
Eugene H. Cota-Robles
Mildred S. Dresselhaus
Joseph G. Gavin, Jr.
John H. Gibbons
Beatrix A. Hamburg
Donald N. Langenberg

William T. Golden
Treasurer
Alvin W. Trivelpiece
Executive Officer

Editorial Board

Elizabeth E. Bailey
David Baltimore
William F. Brinkman
E. Margaret Burbidge
Philip E. Converse
Joseph L. Goldstein
F. Clark Howell
James D. Idol, Jr.
Leon Knopff
Oliver E. Nelson
Helen M. Ranney
David M. Raup
Howard A. Schneiderman
Larry L. Smarr
Robert M. Solow
James D. Watson

Board of Reviewing Editors

John Abelson
Qais Al-Awqati
Don L. Anderson
Stephen J. Benkovic
Floyd E. Bloom
Henry R. Bourne
James J. Bull
Charles R. Cantor
Ralph J. Cicerone
John M. Coffin
Robert Dorfman
Bruce F. Eldridge
Paul T. Englund
Theodore H. Geballe
Roger I. M. Glass

Stephen P. Goff
Robert B. Goldberg
Corey S. Goodman
Jack Gorski
Stephen J. Gould
Richard M. Held
Gloria Heppner
Eric F. Johnson
Konrad B. Krauskopf
Charles S. Levings III
Richard Losick
Karl L. Magleby
Philippa Marrack
Joseph B. Martin
John C. McGiff
Mortimer Mishkin
Jiri Novotny
Gordon H. Orians

Carl O. Pabo
Yeshayau Pocker
Michael I. Posner
Dennis A. Powers
Jean Paul Revel
Russell Ross
James E. Rothman
Daniel V. Santi
Ronald H. Schwartz
Vernon L. Smith
Otto T. Solbrig
Robert T. N. Tjian
Virginia Trimble
Geerat J. Vermeij
Harold Weintraub
Irving L. Weissman
George M. Whitesides
Owen N. Witte
William B. Wood

Science

241 (4870)

Science **241** (4870), 1139-1241.

ARTICLE TOOLS

<http://science.sciencemag.org/content/241/4870>

PERMISSIONS

<http://www.sciencemag.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of Service](#)

Science (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. 2017 © The Authors, some rights reserved; exclusive licensee American Association for the Advancement of Science. No claim to original U.S. Government Works. The title *Science* is a registered trademark of AAAS.